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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,453	12/04/2003	Loyd E. East JR.	2003-IP-011867U1	7134
71407	7590	01/25/2008	EXAMINER	
ROBERT A. KENT			SMITH, MATTHEW J	
P.O. BOX 1431			ART UNIT	
DUNCAN, OK 73536			PAPER NUMBER	
			3635	
			NOTIFICATION DATE	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ROBERT.KENT1@HALLIBURTON.COM  
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**Office Action Summary**

Application No.

10/727,453

Applicant(s)

EAST ET AL

Examiner

Matthew J. Smith

Art Unit

3635

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6, 8-13, 15-18, 20-23 and 25-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-13, 15-18, 20-23 and 25-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6, 8, 13, 25, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Montgomery et al. (6024171).

Montgomery et al. disclose producing gas from a coal seam comprising: drilling a vertical well 12 that intersects a seam 18; bi-wing fracturing the seam, ("opposing ... perforations" 38, 40; col. 5, line 28) below the fracture pressure, along a plane of maximum stress (col. 4, lines 65-68), and which minimizes the creation of near-wellbore stress via cavitation (col. 4, lines 46-47); eroding the seam via a hydrajert 34a, 34b; and performing additional fracturing after the below-fracture- pressure hydrajetting (col. 5, line 34).

Fracturing the seam along the plane of maximum stress is considered inherent since the Montgomery structure can perform the claimed method along any plane in the formation.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6, 8, 13, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montgomery et al. in view of White (4744245).

Montgomery et al. disclose producing gas from a coal seam comprising: drilling a vertical well 12 that intersects a seam 18; bi-wing fracturing the seam, ("opposing ... perforations" 38, 40; col. 5, line 28) below the fracture pressure, along a plane of maximum stress (col. 4, lines 65-68), and which minimizes the creation of near-wellbore stress via cavitation (col. 4, lines 46-47); eroding the seam via a hydrajert 34a, 34b; and performing additional fracturing after the below-fracture- pressure hydrajetting (col. 5, line 34) but not determining the plane of maximum stress but not finding a plane of maximum stress.

White teaches finding the plane of maximum stress for predicting fractures to develop the production of hydrocarbons.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to determine the maximum stress plane in order to more efficiently fracture a seam

Claims 2, 3, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montgomery et al. in view of Surjaatmadja (5765642).

Montgomery et al. disclose the invention substantially as claimed but not casing, drilling at least one horizontal well bore into the coal seam, or fracturing the coal seam along the horizontal well bore using a hydrajetting tool.

Surjaatmadja teaches using a hydrajetting tool 14 to perforate casing and drilling at least one horizontal well bore 46 into the coal seam.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the Montgomery et al. method to include casing and perforate the casing, as taught by Surjaatmadja, in order to complete the well and maintain stability in the area of the coal seam.

With regards to claims 9 and 10, it would have been further obvious to provide casing in a horizontal well bore and perforate the horizontal casing with the hydrajetting tool since it is well known to complete horizontal well bores with casing and subsequently perforate the horizontal casing in order to produce the well along a longer interval.

Claims 4, 5, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montgomery et al. in view of Zupanick (6280000).

Montgomery et al. disclose the invention substantially as claimed including performing additional fracturing after the below-fracture-pressure hydrajetting (col. 5, line 34) but not removing water or logging the well bore.

Zupanick presents removing water (col. 1, line 51) and logging (col. 1, line 60) a coal seam 12 in a horizontal well bore.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to remove water and log the Montgomery et al. hydrajetted well, as presented by Zupanick, in order to drain the coal seam (Zupanick, col. 1, line 63) and identify the coal seam (Zupanick, col. 1, line 60), respectively.

Claims 15-18, 20-23, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montgomery et al. in view of Surjaatmadja and Zupanick.

Montgomery et al. disclose producing gas from a coal seam comprising: drilling a vertical well 12 that intersects a seam 18; bi-wing fracturing the seam ("opposing ... perforations" 38, 40; col. 5, line 28) below the fracture pressure, along a plane of maximum stress (col. 4, lines 65-68), and which minimizes the creation of near well bore stress via cavitation (col. 4, lines 46-47); eroding via a hydrajel 34a, 34b; and performing additional fracturing after the below-fracture-pressure hydrajetting (col. 5, line 34) but not casing, drilling at least one horizontal well bore into the coal seam, or fracturing the coal seam along the horizontal well bore using a hydrajetting tool.

Surjaatmadja teaches using a hydrajetting tool 14 to perforate casing and drilling at least one horizontal well bore 46 into the coal seam.

Zupanick presents removing water (col. 1, line 51) and logging (col. 1, line 60) a coal seam 12 in a horizontal well bore.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the Montgomery et al. method to include casing and perforate the casing, as taught by Surjaatmadja, in order to complete the well and maintain stability in the area of the coal seam plus to remove water and log the Montgomery et al. hydrajettted well, as presented by Zupanick, in order to drain the coal seam (Zupanick, col. 1, line 63) and identify the coal seam (Zupanick, col. 1, line 60), respectively.

It would have been further obvious to provide casing in the horizontal well bore and perforate the casing with the hydrajetting tool since it is well known to complete horizontal well bores with casing and subsequently perforate the horizontal casing in order to produce the well along a longer interval.

### ***Response to Arguments***

Applicant's arguments filed 31 October 2007 have been fully considered but they are not persuasive. The examiner contends applicants' provide no structure or particular technique for identifying or locating the plane of maximum stress to be

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hydrajetted. Ergo, the prior art can perform the claimed method anywhere along the formation which would include the maximum stress plane.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Smith whose telephone number is 571-272-7034. The examiner can normally be reached on T-F, 8-3.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard E. Chilcot can be reached on 571-272-6777. The fax/phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Richard E. Chilcot  
Supervisory Patent Examiner  
Art Unit 3635

MJS *MJS*  
6 December 2007